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NEPTUNE.

DURHAM. (Prof. Chevallier & Mr. R. A. Thompson.)

1847.	G.M.T. h m s	R.A. h m s	Obs.-Cal. s	N.P.D. ° ′ ″	Obs.-Cal. ″	No. of Obs.	Star.
Nov. 17	9 23 6	22 0 3·45	−0·90	102 52 2·1	+1·1	5	B.A.C. 7747
19	9 18 34	0 6·11	0·69	51 46·7	0·1	2	— —
1848. Jan. 11	5 46 11	22 4 7·11	−0·58	102 29 39·9	+0·1	3	B.A.C. 7722

The observations are corrected for refraction and parallax, assuming the Hor. Equat. Par. = 0″·3. The calculated place is taken from Mr. Adams' ephemeris.

HAMBURG. Equatoreal. (M. Rümker.)

1848.	Hamburg M.T. h m s	R.A. ° ′ ″	Dec. ° ′ ″
Jan. 9	6 15 35·4	330 58 9·8	−12 30 57·1
16	6 9 5·3	331 10 50·4	−12 26 22·4

Satellite of Neptune.

From a discussion of Mr. Lassell's Observations, and those made at Cambridge, U.S., Dr. Peirce finds the following elements of the Satellite.

Time of Revolution .... 5ᵈ 21ʰ 12ᵐ·4

Long. Ascending Node ...... 119°·8 supposing the motion direct.

Inclination .... 29 ·9

Time of Northern Elongation, 1847, Nov. 26·53, Greenwich M.T.

Greatest Elongation............ 16″·5

Dr. Peirce states the corresponding mass of Neptune to be $\frac{1}{18780}$ of the sun.

MAUVAIS' COMET.

CAMBRIDGE. Northumberland Equatoreal. (Prof. Challis.)

1848.	Greenwich M. T. h m s	R.A. h m s	N.P.D. ° ′ ″
March 3	11 58 6·0	10 50 35·02	71 32 15·9
7	12 46 40·7	10 41 3·39	71 55 45·7

Not corrected for parallax.

March 3 Compared with Hist. Cél. 21083

7 —— 20827 = B.Z. 456, $10^h\ 39^m\ 28^s$

The place of the first star is taken from the Hist. Cél.; that of the second is a mean of the authorities cited (which agree very well), regard being had to the secular variations.

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CAMBRIDGE, U.S. Large Equatoreal. (Professor Bond.)

1848.	Cambridge M.T. h m s	R.A. h m s	Dec. ° ′ ″	No. Comps.	Star comp.
Feb. 29	12 43 55	10 57 23·1	+18 42 48	11	*a*
March 1	15 22 0	10 54 37·8	+18 36 57	12	*a*
	16 37 0	30·2	46	2	*b*

	Mag.	App. R.A. h m s	App. Dec. ° ′ ″	
a	9	10 56 16·84	+18 43 11·5	in Bessel's Zones 456
b	7	10 58 40·53	+18 33 34·2	——

The observed differences of Right Ascension have been applied to the position of the star of comparison referred to the Mean Equinox of Jan. 1, 1848.

On Feb. 25th, at $12^h\ 23^m\ 30^s$, the Comet preceded a star 9 mag. by $4^m\ 21^s{\cdot}8$, and was south of it 1′ 8″ by 3 comparisons, using the declination circle of the equatoreal. Approximate place of star,

R.A. $11^h\ 11^m\ 54^s$ Dec. +19° 3′.

Mauvais' Comet was found without difficulty, from its place given by Dr. Peirce's Elements, when in the vicinity of the nebula *h* 843, which it resembled in size and brightness. It was bright enough to allow the use of red illumination and the wire micrometer. There were indications of the stellar point so frequently noticed at its first appearance, and from this, a faint, diffused, nebulous light extends for some distance."

Professor Bond thinks the above observations may be relied upon.

Sweeping Ephemeris for the expected Comet of 1264 *and* 1556.

From Mr. Hind's Tables in the *Notice* for April 1847, p. 264.

	March 31.		April 10.		April 20.		April 30.	
Per. Pass. 1848.	R.A. h m	N.P.D. °	R.A. h m	N.P.D. °	R.A. h m	N.P.D. °	R.A. h m	N.P.D °
May 20	9 16	74·1						
30	9 13	82·7	8 29	70·9				
June 9	9 9	86·1	8 43	78·5	8 17	70·2		
19	9 6	88·0	8 47	82·3	8 32	76·4	8 19	70·4
29	9 2	89·2	8 48	84·6	8 37	80·0	8 31	75·4
July 9			8 47	86·1	8 40	82·3	8 36	78·7
19					8 40	84·2	8 38	80·9
29							8 39	82·6

The first vertical column contains the hypothetical date of perihelion passage: the places of the comet corresponding to each hypothesis will be found in the same horizontal line with the perihelion passage, and below the date to which they belong. The R.A.'s are given to minutes, and the N.P.D.'s to tenths of degrees; but the object of the ephemeris is merely to point out the quarter of the heavens in which the comet is to be looked for, and the sweeps should extend pretty widely beyond the data of the ephemeris. If any one should be fortunate enough to catch the comet, it is requested that immediate notice may be given to the Foreign Secretary, Mr. HIND, No. 3 Allsop Terrace, Regent's Park. A similar ephemeris for the whole year, computed by Mr. George Bond, is inserted in the *American Almanac* for 1848, and was communicated to the Society several months ago.

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